

Work Order ID 131075

March-26-15 1:40:12 PM

647.3912
B131075
REV: C

131075

Page 1

Item ID: 647.3912

Revision ID:

Item Name: Lower Deflector

Start Date: 3/26/15

Start Qty: 2.00

2

Required Date: 3/26/15

Req'd Qty: 2.00

2

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals:

Process Plan: MJS

Date: 1503-27

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

647.3900

C

100

0.00

100

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut Blank at 20.000"

*** ONE BLANK MAKES TWO PARTS***

3 0

DAS
20
9-89

15-04-06

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine per folio FB309

DWG REV: C

FOLIO REV: C

2- deburr and break all sharp edges

6 0

DAS
20
9-89

15-04-06

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 131075

131075

Page 2

March-26-15 1:40:12 PM

Item ID: 647.3912 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Lower Deflector
 Start Date: 3/26/15 Start Qty: 2.00 *2* Cust Item ID:
 Required Date: 3/26/15 Req'd Qty: 2.00 *2* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00				6	0		DAS 44 9-89 15/04/07
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00				6	0		DAS 08 9-89 15/04/09
140 *140* Outsource4 Outsource process - Anodize	Outsource process-Anodize per QSI017 4.1.10.1 Memo Issue P/O to ATG : 27987 1- Black Anodize as per Dwg 647.3900 2- PRIME AS PER DWG, SEE NOTE #9 Certification of Conformity is required	0.00 0.00				CG			APR 10 2015 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 131075***131075***

Page 3

Item ID: 647.3912

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Lower Deflector

Start Date: 3/26/15 Start Qty: 2.00

2

Cust Item ID:

Required Date: 3/26/15 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Memo

0.00

Packaging

6x SP1504-24

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Memo

0.00

Quality Control

(6)

DAS
38
9-89

MAY 01 2015

180

Identify as per dwg & Stock Location: ml

0.00

180

Packaging

Memo

0.00

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

6

DAS
27
MAY 06 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

Work Order ID 131075***131075***

Page 4

Item ID: 647.3912

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Lower Deflector

Stop ***NS2***

Start Date: 3/26/15 Start Qty: 2.00

2

Cust Item ID:

Required Date: 3/26/15 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

ML5

MAY 05 2015

ML5

MAY 05 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge	☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other	
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Picklist Print

March-26-15 1:40:11 PM

Page 1

Work Order ID: 131075

131075

Parent Item: 647.3912

647.3912

Parent Item Name: Lower Deflector

Start Date: 3/26/15

Required Date: 3/26/15

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV.A NEW ISSUE JFS 14/05/29 VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B0.375X6.000 /		Purchased	No			100	f	16.8230	0.834	2			
										**			
M7075T6B0.375X6.000													
7075-T6 Plate 0.375" X 6.000", QQ-A 250/12													

DAS

20

9-89

15-04-06

~~16.823~~ 5.250'

Location

Loc Qty

Loc Code

MAT005

16.823

M127539

2

M130175

2.823

M131552

12

16.750' + 3.500'

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

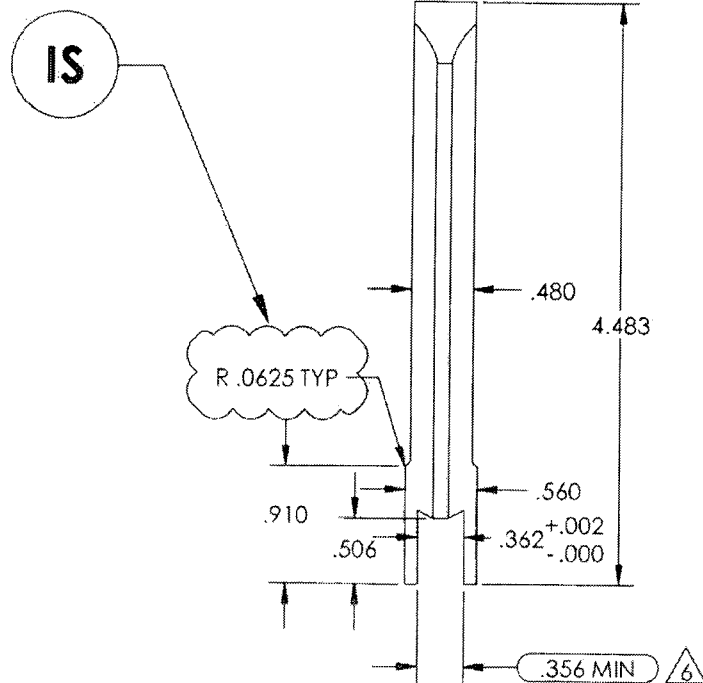
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

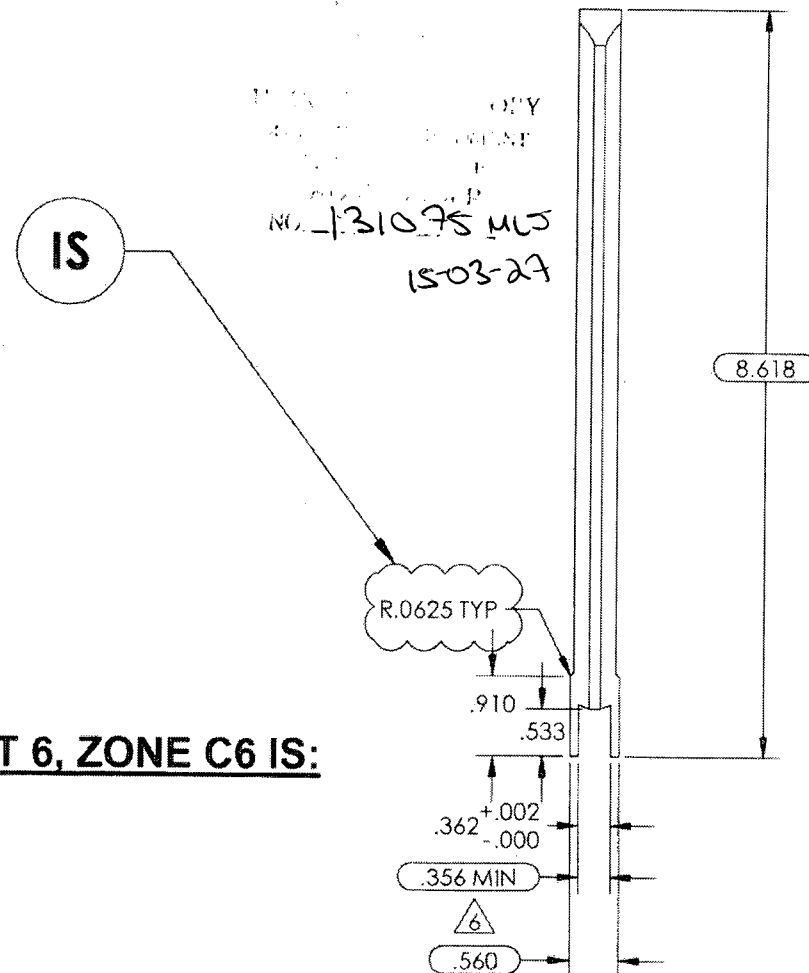
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04556			SHEET 1 OF 1	
	DWG NO. 647.3900	REV: C	PREPARED BY D. MEJIA	DATE: 06/10/2014	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: DEFLECTORS				
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: DIMENSION CHANGE				ECR: D-14-04



SHEET 5, ZONE C6 IS:



SHEET 6, ZONE C6 IS:

DOCUMENTS EFFECTED:	☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
		☐ MAJOR ☒ MINOR	☐ YES ☒ NO

NOTES:

- | REV 88-04 | | | |
|-----------|---------------------------------------|----------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| | LAST PROCEDURE RELEASE: PRI | | NAC |
| REC. | RECEIVED | 09/10/09 | P. BRAVO |
| A | INCORPORATED ECH 02084 03309 & 03395 | 09/24/12 | P. BRAVO |
| B | INCORPORATED ECH 04023 | 09/02/13 | P. BRAVO |
| C | INCORPORATED ECH 04039, 04065 & 04750 | 11/18/13 | P. BRAVO |

UNINCORPORATED ECN(S)

04556

6				12	601.3072	RIVET		CR3213-6-9
2				11	647.3917	DOUBLER		
1				10	647.3916	DEFLECTOR, UPPER HALF	△	△
1				9	647.3915	DEFLECTOR, LOWER HALF	△	△
1				8	647.3914	BREAKAWAY TIP LONG	△	△
	1			7	647.3913	BREAKAWAY TIP MEDIUM	△	△
	1	1		6	647.3912	LOWER DEFLECTOR	△	△
				5	647.3911	212 UPPER DEFLECTOR	△	△
				4	647.3910	412 UPPER DEFLECTOR	△	△
A/R	A/R	A/R		3	601.2045	RIV, LOCITE 598		△
	3	2		2	601.3074	RIVET		MS20470AD 6-12
				1		DELETED		
X					647.3903	DEFLECTOR ASSY		△
	X				647.3902	LOWER DEFLECTOR ASSY HIGH		
		X			647.3901	LOWER DEFLECTOR ASSY LOW		
3903	3902	3901	FIND #		PART #	DESCRIPTION	MAT'L	SPEC
QTY				PART LIST				
NEXT ASSY (S)				APICAL INDUSTRIES				
647.3800				2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5301				
				DEFLECTORS				
				SCALE: 1/2" = 1"				
				DATE: 6/27/88				
				DWG. NO. 647.3900				
				REV. C				

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.125 X 45.0° TYP

SECTION B-B

Ø.177 THRU 3PL

.266 X 17.9°

.045

.603

.923

R.915

4.220±.002

2.110±.002

DETAIL A

R.279

R3.406

15.896

15.304

15.046

B

B

Ø.189

6.446

40.2°

.312

0

18.502
18.127

35.8°

10.702

8.599

6.253

1.700

.777

6

.340^{+0.000}
-.002

.346 MAX

DETAIL C

.035 X 45.0° TYP

.375

15.896

Ø

647.3911

DESIGNED BY: J. J. JONES
DRAWN BY: J. J. JONES
CHECKED BY: J. J. JONES
APPROVED BY: J. J. JONES
DATE: 10/1/00

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ±.01
ANGLES ±.5°

REV	DATE	DESCRIPTION
B	07/11/00	647.3900
C		

SCALE: NONE

SHEET 2 OF 12

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.125 X 44.9°

SECTION E-E

.274 X 17.9°

Ø.177 THRU 3PL

.120

.788

R1.100

.886

DETAIL D

647.3910

10.850



DETAIL F

.340^{+0.000}_{-0.002}

.346 MAX

.030 X 45.0° TYP

.700

R.258

R3.274

Ø.189

10.842

10.433

9.986

E

E

Ø.189

6.457

52.1°

35.6°

35.8°

1.744

.312

0

15.559

15.291

14.677

10.863

8.803

6.384

1.800

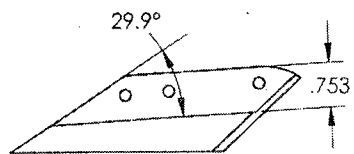
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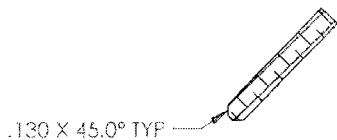
ORIGINAL DATE	01/01/00
DESIGNER	CHICOP
DRAWN	CHICOP
CHECKED	CHICOP
APPROVED	P. MAYO
CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
TOLERANCES ARE	
FINISHES ARE	
SCALE	NONE

APICAL INDUSTRIES	
2608 TEMPLE HEIGHTS DR.	
OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DEFLECTORS	
REV	07/06
DATE	07/06
SCALE	NONE
SHEET	3 OF 12

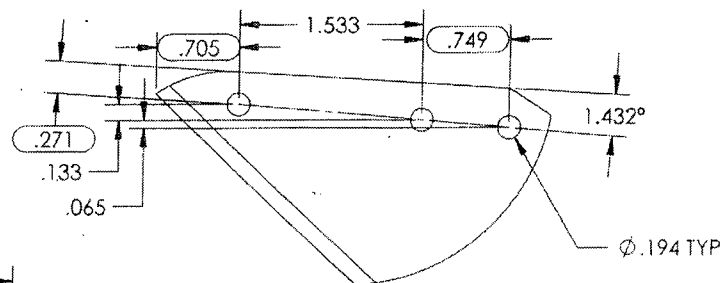
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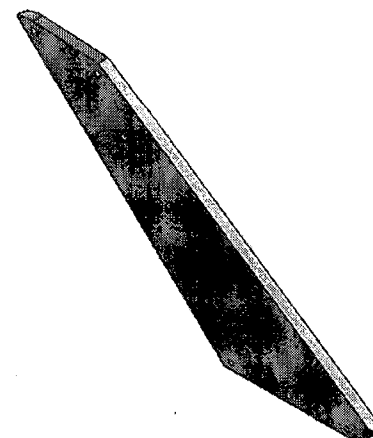
SECTION L-L



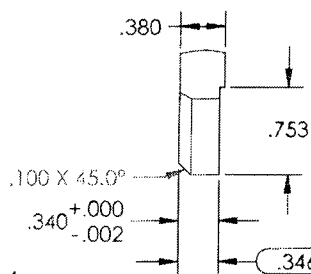
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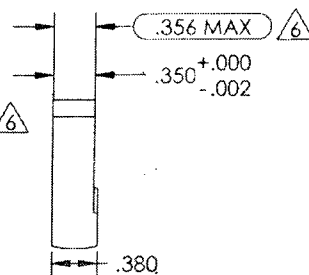
DETAIL H



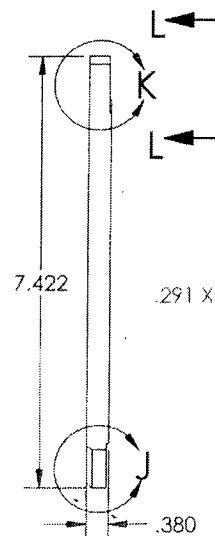
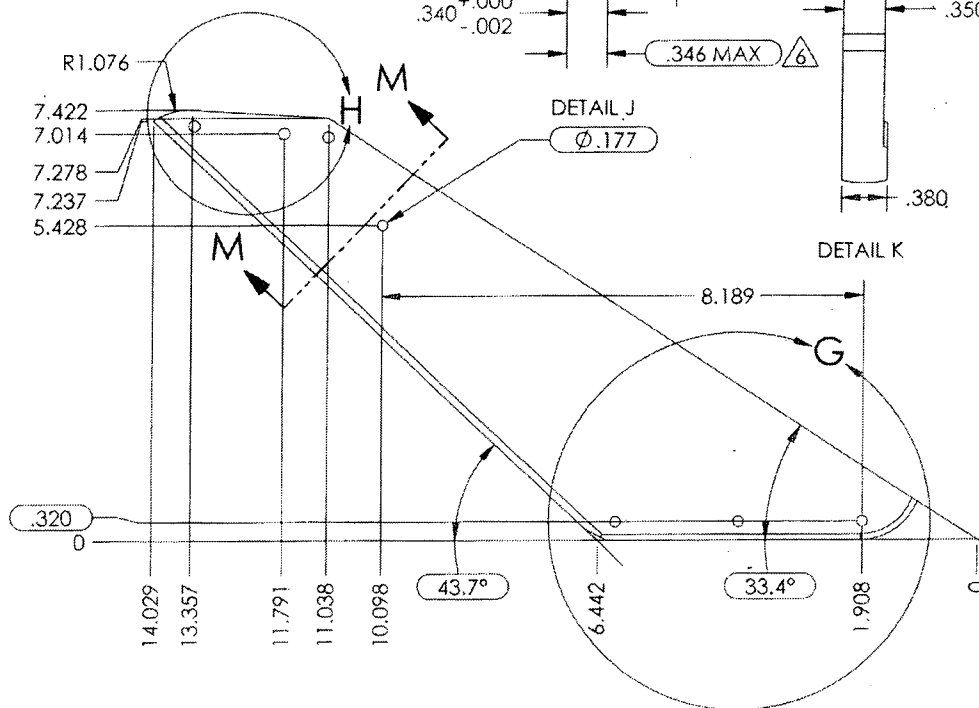
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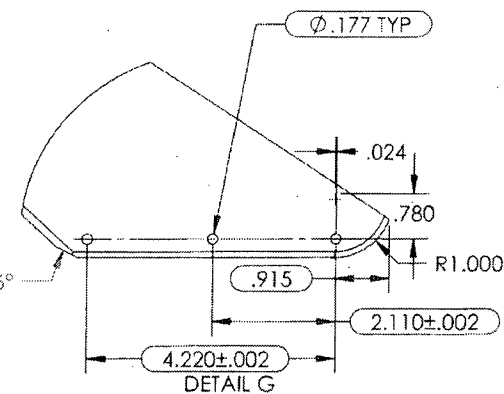
DETAIL J
Ø.177



DETAIL K



DETAIL G



ORIGINAL DATE
APPROVED BY
DRAWN BY
CHECKED BY
DESIGNED BY
DRAWING APPROVAL
P. H. H. H. H.
CONTRACT NO.

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760) 724-5300

DEFLECTORS

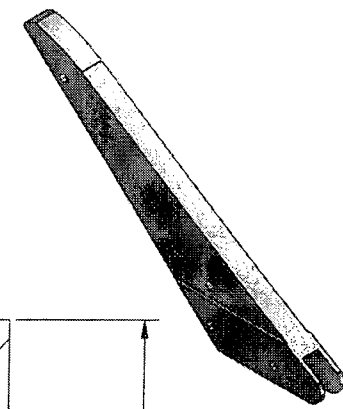
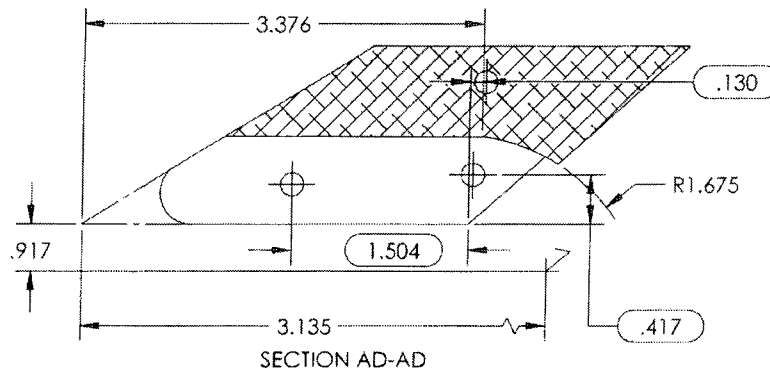
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ±.01
HOLE DIA. ±.005
HOLE DIA. ±.005

SHEET 8 CAGE CODE 07MA26 DWG. NO. 647.3900 REV. C
SCALE NONE 1 SHEET 4 OF 12

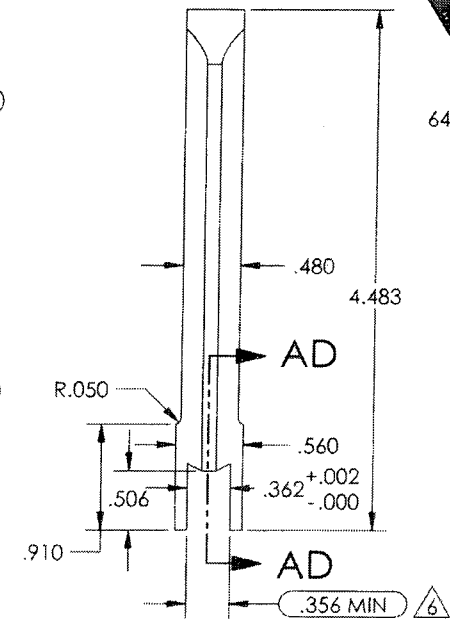
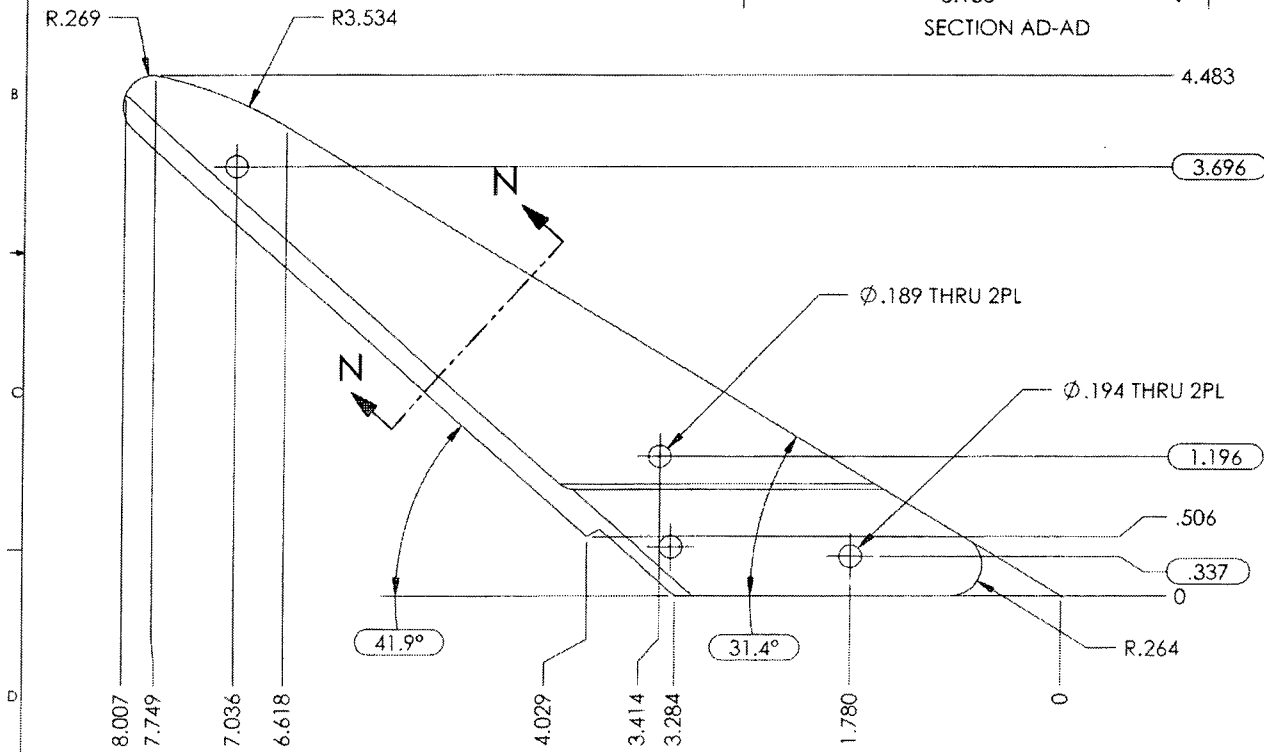
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.180 X 45.0° TYP

SECTION N-N

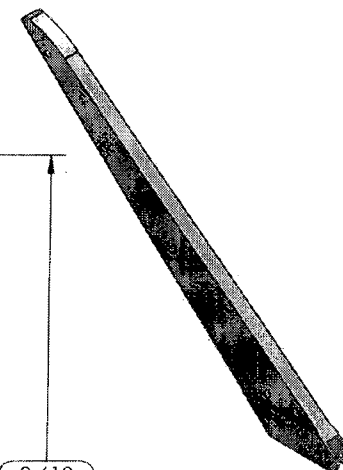
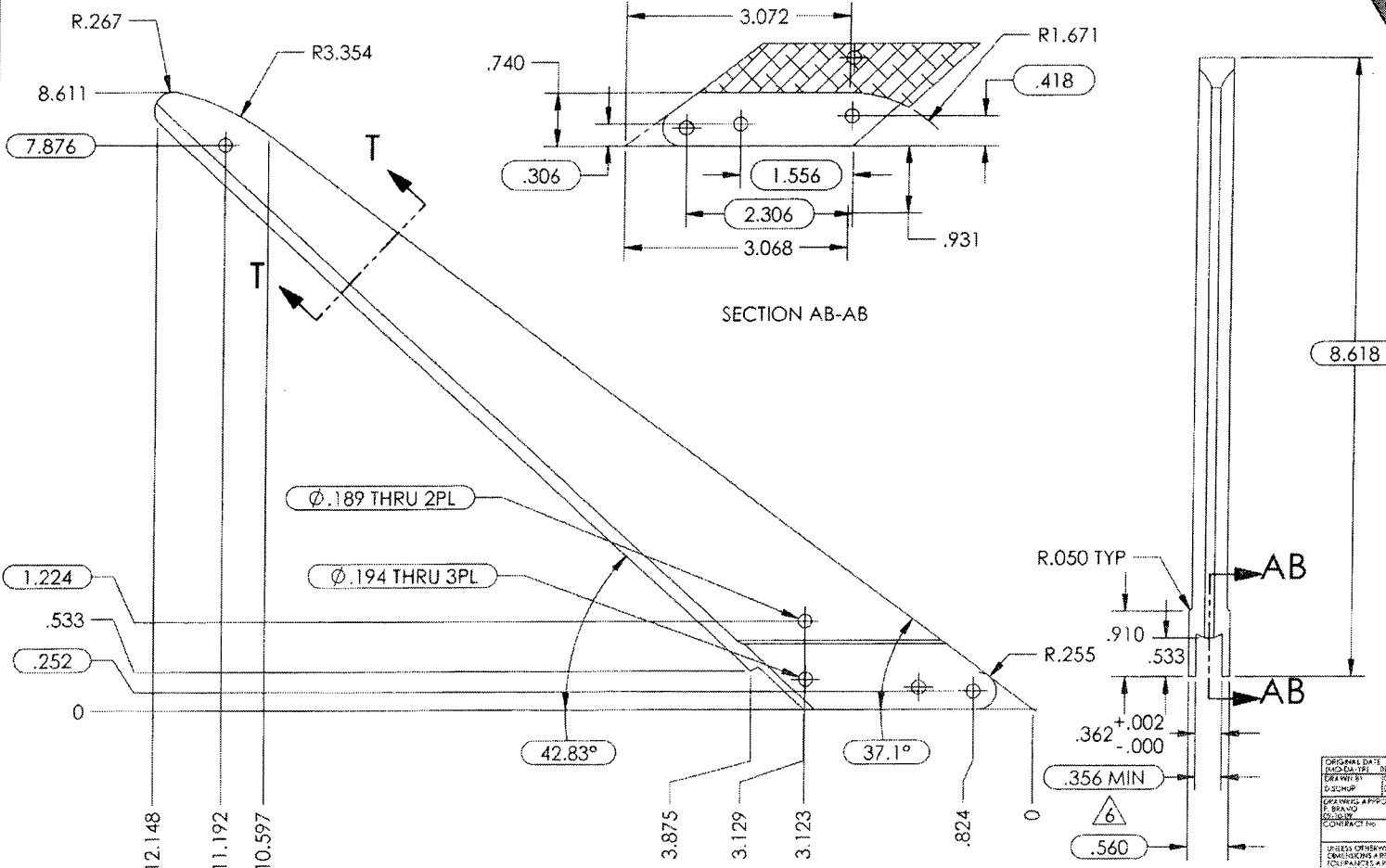
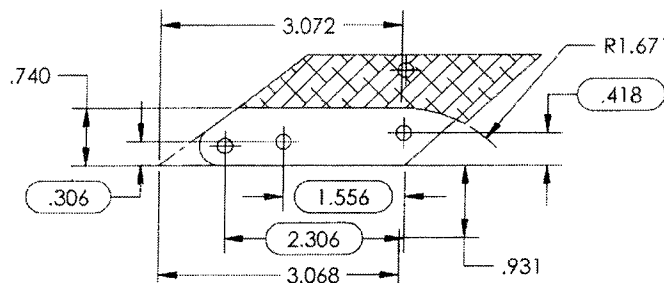
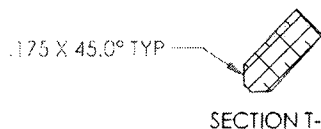


647.3913



ORIGINAL DATE (DATE) (TIME) (BY) (OF)		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY CHECKED BY DESIGNED BY P. BRAY (DATE) (TIME) (BY) (OF)	DRAWN BY CHECKED BY DESIGNED BY P. BRAY (DATE) (TIME) (BY) (OF)	SCALE: NONE	REV. C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES		SHEET CODE: B DWG. NO: 07M26 SCALE: NONE	REV. C 647.3900 SHEET 5 OF 12

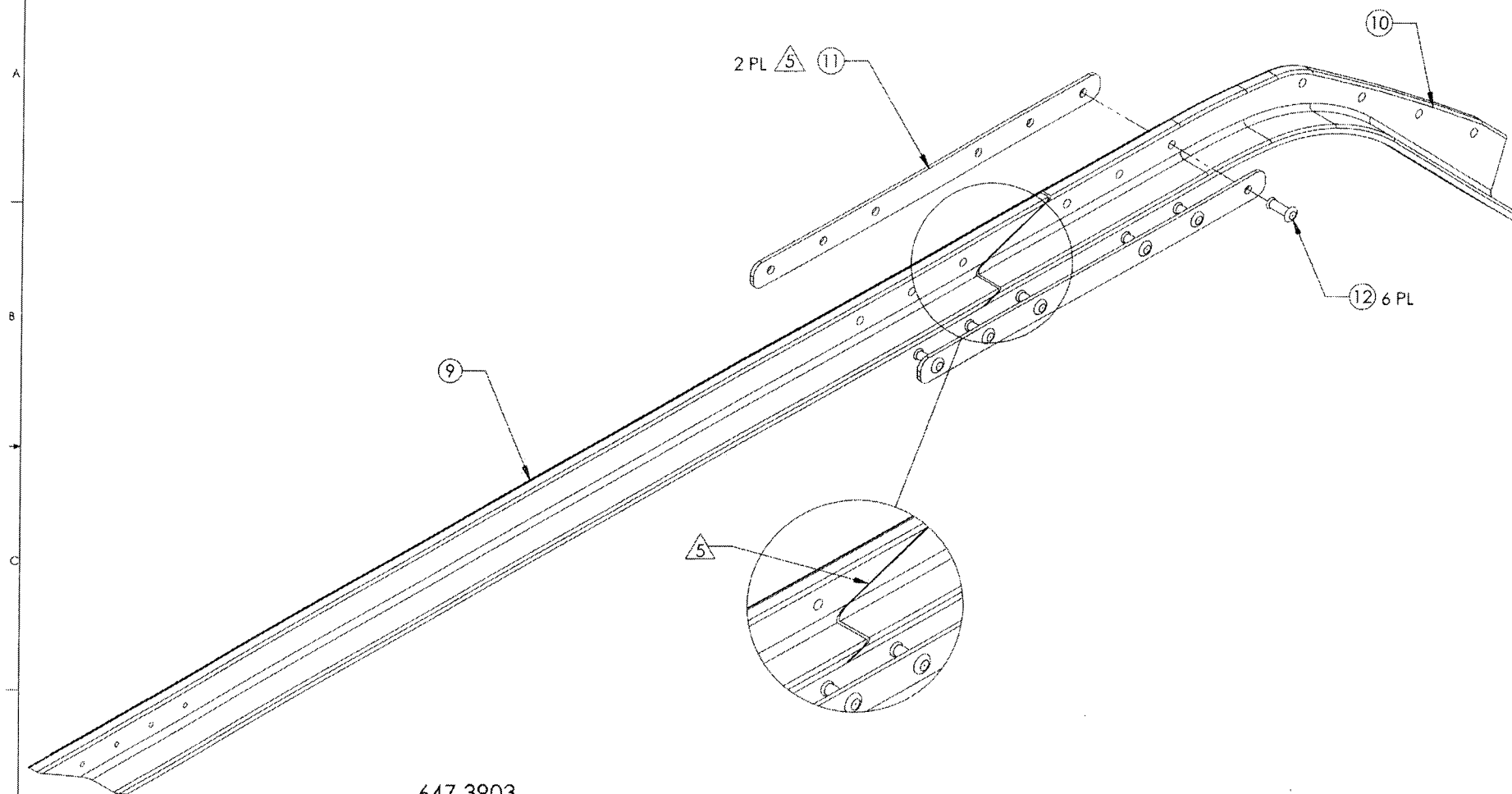
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647.3914

ORIGINAL DATE: 07/05/00 DRAWN BY: J. B. BEECHER CHECKED BY: J. B. BEECHER DESIGNED BY: J. B. BEECHER APPROVED BY: J. B. BEECHER CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92054-3512 (760) 724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONS ARE 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		DEFLECTORS	
SHEET: 8	CAGE CODE: 07/ME6	DWG. NO: 647.3900	REV. C
SCALE: NONE		SHEET 6 OF 12	

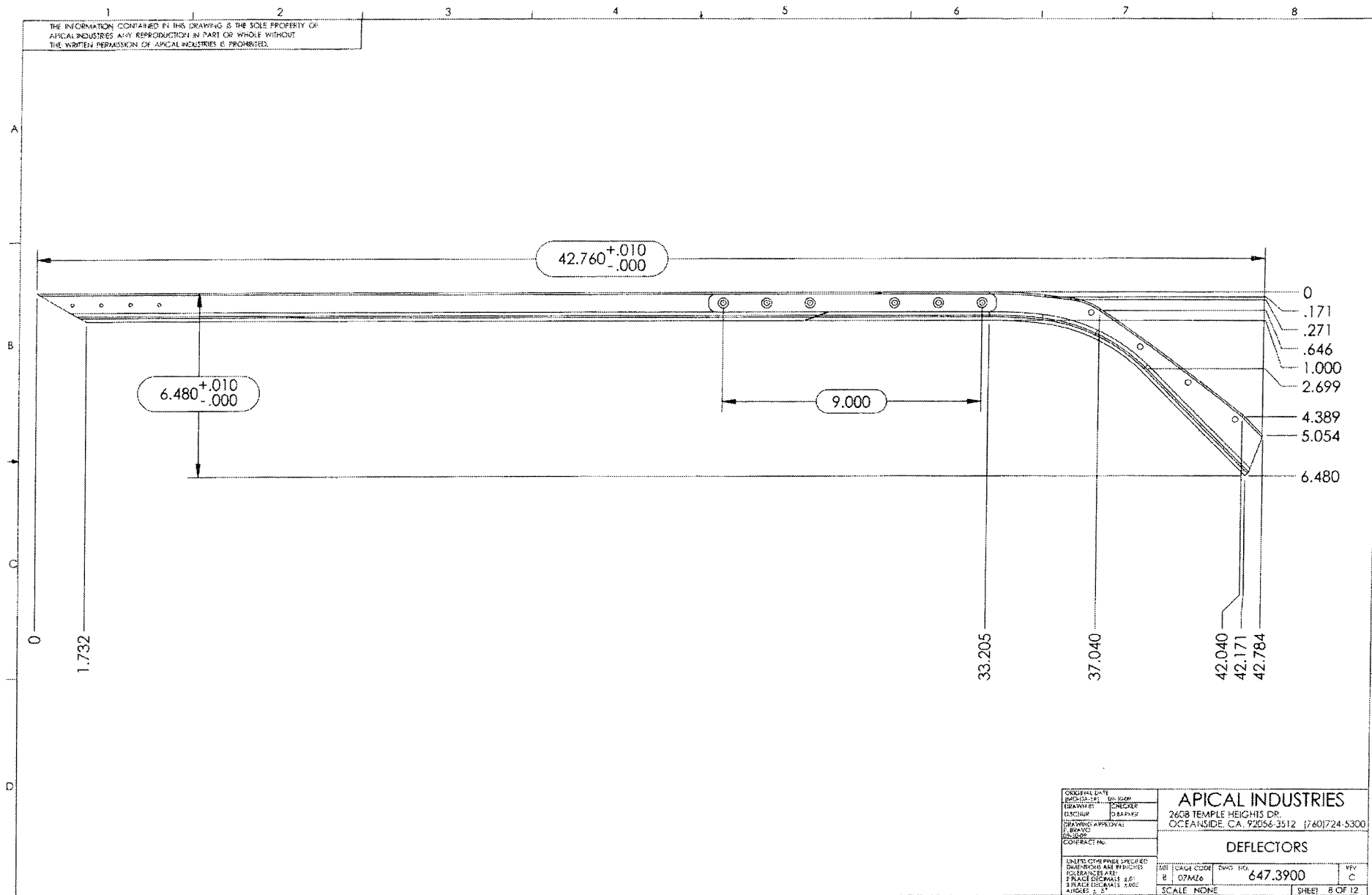
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647.3903

OFFICIAL DATE DESIGNED BY: SA TOOP DRAWN BY: JONCEKEP CHECKED BY: JONCEKEP DESIGNED APPROVAL: J. BRANLEY REVIEW: CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724 5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS ARE TO 0.01 2 PLACE DECIMALS = 0.01 3 PLACE DECIMALS = 0.001 ANGLES ± 5°		SHEET CODE: 8 07M26 SCALE: NONE	DWG. NO.: 647.3900 REV.: C
		DEFLECTORS	
		SHEET 7 OF 12	

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ORIGINAL DATE REVISIONS DRAWN BY: ENGINEER CHECKED BY: DRAWING DRAWING APPROVAL P. BRAYCO 10/1/00 CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNITS: DIMENSIONS IN INCHES DIMENSIONS ARE FINISHED TOLERANCES ARE: FRACTIONS DECIMALS ±.01 DECIMALS ±.005 ANGLES ±.5°		SHEET CODE B 07M26	DWG NO. 647.3900
SCALE: NONE		VEV C	SHEET: 8 OF 12

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1 2 3 4 5 6 7 8

A

B

C

D

AM

AN

AR

AR

647.3915

0.375

0

2.532

4.032

5.532

$\phi .192$

DETAIL AM

.400

25.237

26.237

27.237

28.237

$\phi .116$

DETAIL AN

R.125

.340^{+.000}_{-.005}

.813

R.0625 OR 45° CHAMFER X .0625

4 PL

.830

2.000

.188

SECTION AR-AR

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760) 724-5300

DEFLECTORS

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE
FRACTIONS DECIMALS ANGLES
FRACTIONS DECIMALS ANGLES

DATE: 07/10/00
DRAWN BY: J. B. PETER
CHECKED BY: J. B. PETER
DESIGNED BY: J. B. PETER
APPROVED BY: J. B. PETER
CONTRACT NO.

REV. C

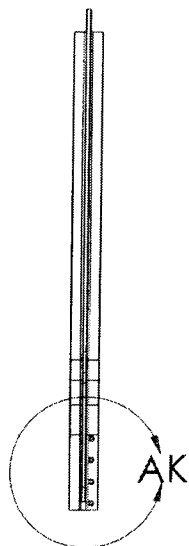
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SCALE: NONE

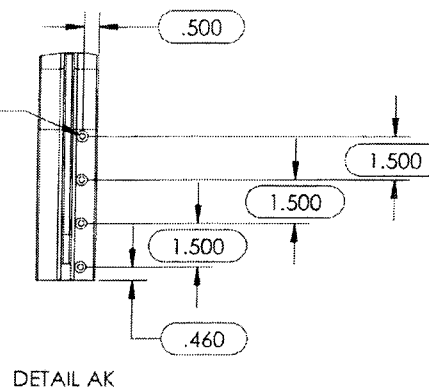
SHEET 9 OF 12

COPIES/DATE (MAG-DA-178) (8-10-00) IMPRINTED DISC/HP CLARIPS ISSUANCE APPROVAL BY: BAFNO DTG: 1000 CONTRACTING	APICAL INDUSTRIES 2609 STEPHENS HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300 DEFLECTORS												
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FINISHES ARE PLATE (DIMENSIONS 4") PLATE (DIMENSIONS 2.50") ANGLE 4 3"	<table> <tr> <td>SIZE</td> <td>CAGE CODE</td> <td>DWG. NO.</td> <td>REV.</td> </tr> <tr> <td>B</td> <td>D7M26</td> <td>647.3900</td> <td>C</td> </tr> <tr> <td colspan="3">SCALE</td> <td>SHEET 9 OF 12</td> </tr> </table>	SIZE	CAGE CODE	DWG. NO.	REV.	B	D7M26	647.3900	C	SCALE			SHEET 9 OF 12
SIZE	CAGE CODE	DWG. NO.	REV.										
B	D7M26	647.3900	C										
SCALE			SHEET 9 OF 12										

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APICAL INDUSTRIES AND REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



4X $\phi .196 \pm .010$ THRU ALL
 $\checkmark \phi .385 \pm .020 \times 100^\circ \pm 1.000^\circ$

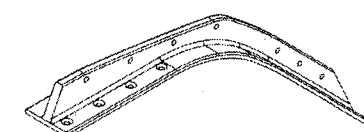


DETAIL AK

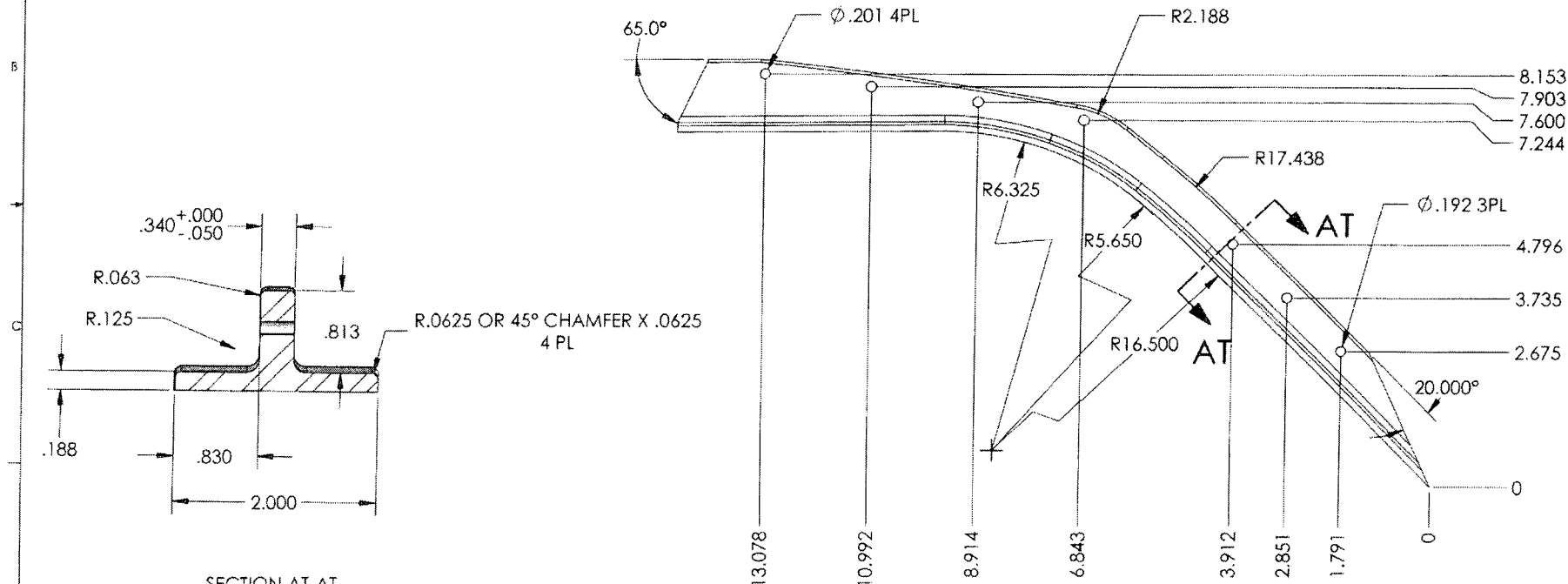
647.3915

ORIGINAL DATE: 09-15-88		APICAL INDUSTRIES	
DESIGNED BY: D. SCHMIDT	CHECKED BY: D. SCHMIDT	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DESIGNED APPROVAL: P. ARAYO		DEFLECTORS	
CONTRACT NO.:		SCALE: NONE	
LIMITS ON DIMENSIONS: UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS DECIMALS ANGLES		REV. NO. 07M26	REV. C
		SHEET 10 OF 12	

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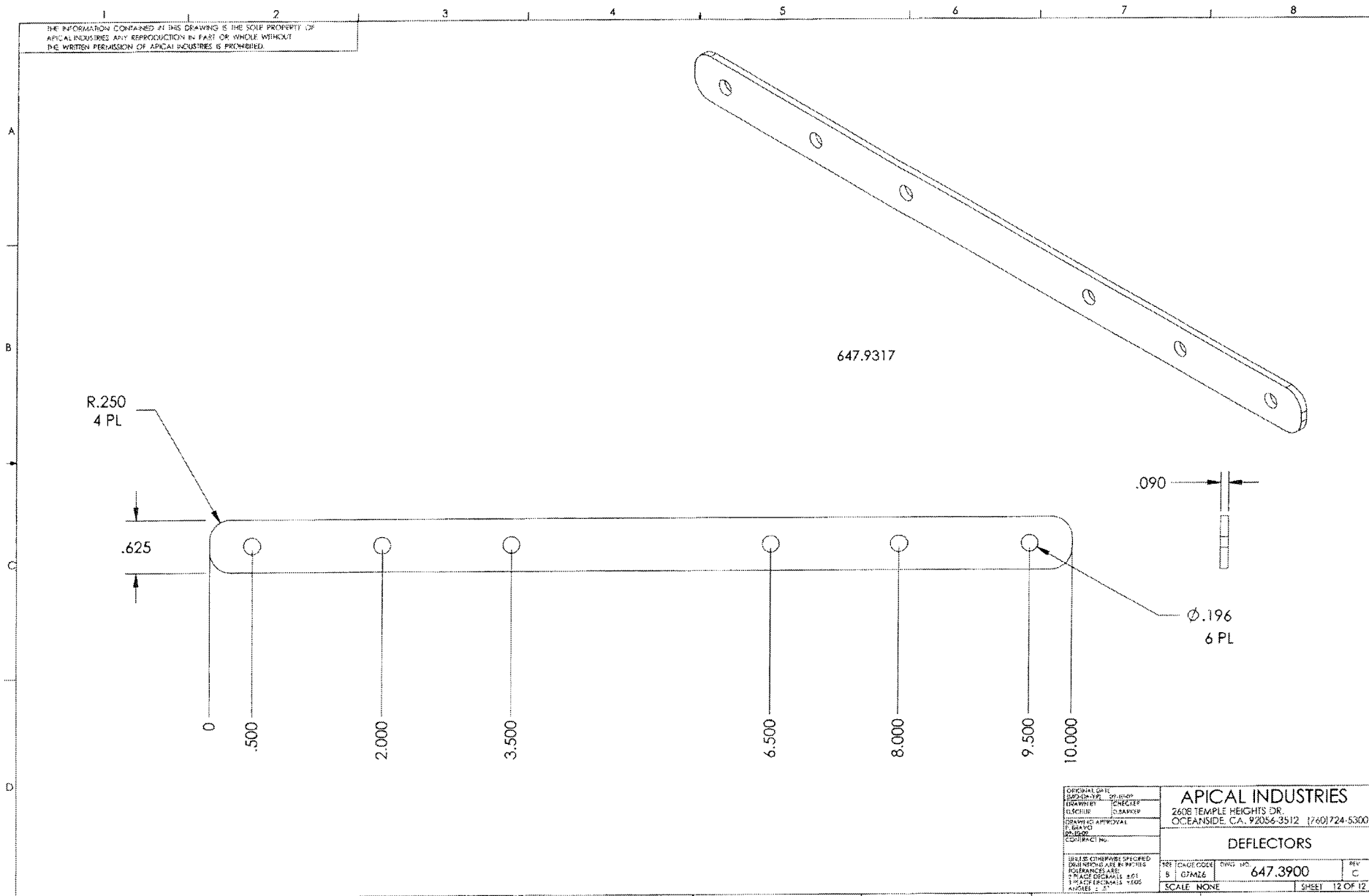
647.3916



SECTION AT-AT

OPTIONAL DATE INDICATE 30-15-98		APICAL INDUSTRIES	
DRAWN BY D. SCHUR	CHECKED BY D. SCHUR	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVED BY R. BRAY		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS AND DECIMALS FRACTIONS 1/16"		SHEET B 07M26	REV. C
SCALE NONE		SHEET 11 OF 12	

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ORIGINAL SET
 DESIGNED BY: JF-1040
 DRAWN BY: JCH-1040
 CHECKED BY: JCH-1040
 DRAWING APPROVED BY: JCH-1040
 DATE: 10-10-00
 CONTRACT NO.

APICAL INDUSTRIES
 2608 TEMPLE HEIGHTS DR.
 OCEANSIDE, CA. 92056-3512 (760) 724-5300

DEFLECTORS

DATE OF OTHER PARTS SPECIFIED	DATE OF THIS PART	REV
DATE OF THIS PART	DATE OF THIS PART	C
SCALE: NONE	647.3900	SHEET 12 OF 12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO27987**

Purchase Order Date 4/1/2015

PO Print Date 4/16/2015

Page Number 5 of 8

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Ship To Contact

Ship To Phone

Ship Via:

VENDOR'S TRUCK

Ship Acct:

13 131075

647.3912 LOWER
DEFLECTOR REV. C

4/24/2015

6.00

\$11.45

\$68.70

Yes

4/24/2015

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:

\$68.70

14 131356

647.7917 BRACKET
REV. N/C

4/24/2015

14.00

\$10.90

\$152.60

Yes

4/24/2015

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:

\$152.60

15 119630

647.7918 BRACKET
REV. N/C

4/24/2015

12.00

\$10.90

\$130.80

Yes

4/24/2015

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:

\$130.80

Note:

4/16/2015



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 63666

Date: 24-Apr-15

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity	Description		
	HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N PAINT IS SUPPLY BY CUSTOMER Job: 20150301 PO: PO27987 Line:		
6 ea	Part: 646.3810 BRACKET HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20150302 PO: PO27987 Line:	Rev: N/C	
6 ea	Part: 647.3912 LOWER DEFLECTOR HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20150303 PO: PO27987 Line:	Rev: C <i>8015-01-24</i>	
14 ea	Part: 647.7917 BRACKET HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N PAINT IS SUPPLY BY CUSTOMER Job: 20150304 PO: PO27987 Line:	Rev: N/C	
12 ea	Part: 647.7918 HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2	Rev:	



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 63666

Date: 24-Apr-15

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity		Description	
Job: 20150309		PO: PO27987 Line:	
2 ea	Part: D4703-043 LOCK PIN HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 Job: 20150310	Rev: A PO: PO27987 Line:	
Certificate of Conformance A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order. ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY DATE : <u>24/4/15</u> CERTIFIED SIGNATURE : <u></u> RECEIVER SIGNATURE : _____			